Data field	Explanation
Module number	WP06
German title / English title	Multimedia-Rundfunksysteme / Multimedia Broadcast Systems
Credits	5 ECTS
Workload	68 Contact hours (4 SWS Ü), 82 Hours of independent study
Subject coverage	Subject-Specific Specialization
Learning outcomes	Students know the fundamentals of audio and video signals and multimedia coding for broadcast systems; how to measure quality of coded multimedia signals; and fundamentals of broadcast systems and current standards. They can apply the knowledge in simulating coding methods and implementing and configuring broadcasting systems.
Requirements	Recommendation: Basic knowledge in digital communication systems and signal processing
Level	1./2. Semester
Type of module	Seminar, Laboratory Training
Status	Required-Elective module
Semesters when offered	Every semester
Method of assessment / Type of examination	The method of assessment / type of examination must be defined by the lecturer within the deadline determined in §19 (2) RSPO. Should the deadline pass without determination of the form of assessment in the module, the following method of assessment / type of examination applies: 50% Written examination (90 minutes), 50% Written laboratory report (10-15 pages) of the laboratory group with consultation (15-30 minutes)
Grade assessment	See study and examination regulations
Content	• Analog and digital audio and video signals • Audio and video transport and coding for broadcasting systems (MPEG, H264.x, Dolby Digital) • Audio and video quality analysis • Digital audio broadcasting standards (DAB(+), DRM(+) and others) • Digital video broadcasting standards (DVB-T/C/Sx and others) • Internet radio and IP-TV • Multimedia Broadcast Multicast in 3-5G Mobile Communication Systems • Lab training including selected topics in audio and video coding, setup and configuration of a broadcast system, measurements in broadcast systems
Reading list	W. Fischer: Digital Video and Audio Broadcasting Technology, Springer M. Wien: High Efficiency Video Coding, Springer M. Bosi, R. Goldberg: Introduction to Digital Audio Coding and Standards, Springer
Further information	Language employed in the module: English
Required Room type	Ü-Sem, Ü-Lab